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# THE ETHOS OF MUSIC
# IN
# ANCIENT GREEK EDUCATION

A Thesis presented for the Degree of Master of Arts

By

Mary L. Lawrence Clark, A.B. Smith College, 1927
Boston University 1929

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# THE ETHOS OF MUSIC
# IN
# ANCIENT GREEK EDUCATION

## Introduction

From a knowledge of one art, we learn an appreciation of all arts. From a prolonged stay in one short period of history we gain a new evaluation of the whole great human story. From a friendship with one element in Ancient Greek education we gain a speaking acquaintance with all. From a concentration on music in Greek education we gain both the preliminary pleasure of studying a highly idealized art in a highly idealized nation, and the solid after-satisfaction of genuine comradeship with an idea at work. Perhaps no nation was as conscious as the Greeks of the *ethos* or moral character of music. Today a challenging new sense of the ethical potentialities of music is growing among the most prominent music educators in America. In indirect acknowledgment to the influence of this tendency, it is the purpose of this thesis to study the Greek ideal and program of education, the place of music in it, and the Greek understanding of the *ethos* of music, whether absolute or variably interpreted.

Music cannot be torn from the fabric of life. It is woven intricately into human experience. By the appreciative uninitiate, music is often pedestaled. Yet even if it is not a "universal language" until ultimately interpreted, it is universally eloquent - conveying more concentrated emotional content than any other medium of expression. Actually its structural basis is vibration. Sound comes to us in air-waves, impinging upon the drum of the ear. The nerve impulse thus aroused is conveyed to the brain, and there translated into sound. H. E. Hunt in "Spirit and Music" says: "Beyond doubt, the world is full of sounds that we cannot hear, and of sights that we never see, for of the whole range of vibration our senses permit us to garner but the veriest fragment - a few notes here of sound, and a brief range there of sight, out of the whole vast scale of vibrant Nature." Hunt goes on to distinguish music from harsh sounds by its characteristic rhythmic waves, following each other in ordered swing. Rhythm, therefore, is the primary physical manifestation of music. This binds music to universals, for "Nature is regular, from the

beating of our hearts to the swing of universes in the heavens."

In our rhythmic cycles of educational progress, music has always had a part. Our study is concerned with music as an element in human education in a particularly self-critical, though ancient, cycle. In order to view our subject in perspective, let us glance back to intervening cycles, for educationalists through the ages have attributed to music highest powers for moulding character.

If, with Herbert Spencer, we believe all music to be originally vocal, and dependent for its forms on its quieter mother, speech, we will hold that it is "an idealization of the natural language of passion", growing out of the less quiet parts of speech. We may even coincide in our conclusion as to its function, with his, though not following his steps as unimpeachable. Music returns to its mother a valuable power. Human relations are based on speech. Musical culture increases sympathy between human beings. "Just as there has silently grown up a language of ideas, which, rude as it at first was, now enables us to convey with precision the most subtle and complicated

thought; so, there is still silently growing up a language of feelings, which, notwithstanding its present imperfections, we may expect will ultimately enable men vividly and completely to impress on each other all the emotions which they experience from moment to moment.*** Those vague feelings of unexperienced felicity which music arouses - those indefinite impressions of an unknown ideal life which it calls up, may be considered as a prophecy, to the fulfillment of which music is itself partly instrumental. **** We will only add, that if the probability of these corollaries be admitted, then music must take rank as the highest of the fine arts - as the one which, more than any other, ministers to human welfare. **" (1)

About a thousand years earlier, in 819, another eminent educationalist approached the question of the function of music from his immediate experience of its uses and powers. Rhabanus Maurus writes, in one of the world's great pedagogical essays, from the monastery of Fulda, "Yet it is not only the good reading and beautiful psalmody that we owe to music; through it alone do we become capable of

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(1) Herbert Spencer, Essays on Education page 333.

celebrating in the most solemn manner every divine service. Music penetrates all the activities of our life, in the sense, namely, that we above all carry out the commands of the Creator and bow with a pure heart to his commands; all that we speak, all that makes our hearts beat faster, is shown through the rhythm of music united with the excellence of harmony; for music is the science which teaches us agreeably to change tones in duration and pitch. When we employ ourselves with good pursuits in life, we show ourselves thereby disciples of this art; so long as we do what is wrong, we do not feel ourselves drawn to music. Even heaven and earth, as everything that happens here through the arrangement of the Most High, is nothing but music, as Pythagoras testifies that this world was created by music and can be ruled by it." (1)

Another thousand years earlier, from a life in direct contrast to the legalism of the mediaeval monk's, another educationalist, Plato, writes, "Then, again, the teachers of the lyre take similar care that their young disciple is temperate and gets into no

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(1) Cubberley - Readings in the History of Education; Reading No. 74

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mischief; and when they have taught him the use of the lyre, they introduce him to the poems of other excellent poets, who are the lyric poets; and these they set to music, and make their harmonies and rhythms quite familiar to the children's souls, in order that they may learn to be more gentle, and harmonious, and rhythmical, and so more fitted for speech and action; for the life of man in every part has need of harmony and rhythm." (1)

Perhaps it seems superfluous to repeat that today a cult of musical educationalists is realizing again the moral powers of music, and is studying deeply into the psychological effects on listeners of different types of music. It is building music education programs on the knowledge acquired, and our moral ideal. Obviously this latter is where we shall be individualistic in our interpretations. Even if we agree that music is morally powerful, our moral ideals will vary, and therefore our choice of music. It is a part of the task of this study to judge whether this moral power, freely admitted to music as ethos by the Greeks, was answerable to one moral ideal or to many; to an

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(1) Laurie - "Teaching of Morals" from Protagoras of Plato

interpretation which was absolute and could be so discovered by us today, or to a relative or individual understanding of the moral effects of different kinds of music.

## Terms Defined

In this study we shall understand by music that branch of the fine arts which includes melody and harmony, both vocal and instrumental. Aristoxenus leads up to a definition in his introductory paragraph: "The branch of study which bears the name of Harmonic is to be regarded as one of the several divisions or special sciences embraced by the general science that concerns itself with Melody. Among these special sciences Harmonic occupies a primary and fundamental position; its subject matter consists of the fundamental principles -- all that relates to the theory of scales and keys; and this once mastered, our knowledge of the science fulfils every just requirement, because it is in such a mastery that its aim consists. In advancing to the profounder speculations which confront us when scales and keys are enlisted in the service of poetry, we pass from the study under consideration to the all-embracing science

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of music, of which Harmonic is but one part among many. The possession of this greater science constitutes the musician." (1) There is controversy over Aristoxenus' meaning for "the all-embracing science of music". Marquard thinks it more inclusive than Westphal. Macran says, "This (or Marquards Thought) is not in accordance with Aristoxenus' use, and probably Westphal is right in interpreting it in its close and strict meaning."(2)If so, the other sciences referred to would be composition, instrumental music, singing, etc.

Frederick Nolan, in an essay "On the Theoretical Music of the Greeks", gives statement to a broader conception of music: "However the critical distinction of the ancient writers may be liable to exceptions, in considering poetry as comprehended in music, the alliance of those sister arts was originally so close as to entitle them to an undivided attention. By the ancients, who canvassed their common merits, equal surprise has been expressed, that the instrumental performer should be entitled to the name of musician, as that the title

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(1) Macran - The Harmonic of Aristoxenus, page 165

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(2) Macran - page 224.

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should be denied to the lyrical poet." Possibly, therefore, we shall be forced to include in our definition of music the poetry studied for the purpose of gaining background. Obviously, a man who was only a poet, was not a "musician". A man who was both poet and composer or player was surely a "musician", and so the man who sang and played but did not write poetry.

The ethos, or moral character, attributed to music by the Greeks was of necessity of the nature of their ideal for life, though dependent on an ancient superstition, now turned into an understood psychological fact, that music "could in itself express and arouse definite notions and passions, and could exert a direct moral or immoral influence." (1)

From the "Morals" of Plutarch we have this evaluation: "The ancient Greeks deemed it requisite by the assistance of music to form and compose the minds of youth to what was decent, sober, and virtuous, believing the use of music beneficially efficacious to incite to all serious activies." *** "The right moulding of ingenuous manners and civil conduct lies in a well-grounded musical education." If we accept beauty and kalokagathia (proportion) as the typical Greek ideal, and believe, with Laurie, that

(1) Dickinson - Music in the History of the West. Ch. page 14.

"the genuine Greek did not make any real distinetion between a virtuous life and a beautiful and happy one" (1) we may perhaps say "that it was not the abstract good of Plato which governed the ethical conceptions of the Greeks, but the beautiful as another expression for harmony. Hence the compound word kalokagathia. But inasmuch as the Greek mind was essentially concrete, it included in the idea of human excellence the outer aspect and bearing of the individual man." (2) The Spartans, however, when dividing their schools into three fields, and giving the field of music to the teaching of religion and ethics, did not consider the moral influence of music to be aesthetically evidenced. Virtue was for them a hardier, less graceful, more unselfish, and less intellectual factor in life than it was for the Athenians. Sparta's music was most commonly used to engender the martial spirit. In each case, the conception of morality, of virtue, was dependent on their conception of the needs and purposes of the life of man.

(1) Laurie - page 220

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(1) Lamprecht - page 220

(2) Lamprecht - page 220

We shall use the term education, not in its broadest conception, which, as Laurie suggests, would require a philosophy of history to make definition possible, but as the process by which a nation, both consciously and unconsciously, transmits its knowledges, attitudes, and ideals and skills, from those who have them to those who do not have them. (Laurie, page 2)

Our study of the ethos, or moral character, of music in ancient Greek education should deal, therefore, with the nation in its educational processes, with special emphasis on the character and place of Greek music, and on its ethical influence.

The period of Greek history in which this study is centered will include the second half of Monroe's "Period of Old Greek Education" and both sections of his "Period of New Greek Education." Our limits are therefore from the first records in regard to Greek education, i.e. the beginning of the historic period, to the close of the fourth century B.C. (Monroe Source Book, page 1.)

Our sources for the first period are meagre, and fullest in regard to Spartan education. (Criticism from Monroe) This is owing to the fact, according to Monroe, "that the old education was characteristic of

Sparta throughout its history, for Sparta never accepted the new educational ideas or tolerated the new practices." Hence there are many authorities on the old education as found at Sparta, but comparatively few detailed discussions of the same period at Athens. Sparta, however, offers the best type of the old education, though of a much more extreme type than that found anywhere else in Greece, unless Crete be an exception. Plutarch's "Life of Lycurgus" gives the fullest description of these educational institutions. It could be supplemented by passages drawn from the "Morals"of Plutarch as well as briefer references from Herodotus, Thucydides, Plato, and Aristotle. Plutarch lived about 50 to 120 A.D. He was a moralist rather than an historian. His best authority was Aristotle.

The new Greek education was typical of Athenian life, which may explain why the references to the old education as it existed at Athens are not so numerous or detailed. The sources referring to the old are from writers such as Plutarch, Plato, Lucian, Aristotle, who lived in the new, which was typically a literary age. The best complete description

of the old education is the brief passage from the "Protagoras" of Plato, which belongs in the early group of Plato's writings, dating probably from the first decade of the fourth century B.C. The satiric passage from Aristophanes' "Clouds", the ideal education advocated in the Republic, and the scientific exposition in the Politics of Aristotle supplement our knowledge. Thucydides' famous funeral oration of Pericles shows the earlier influence of the new education. The later Greek education is described by Isocrates in "Against the Sophists", and by Xenophon, Memorabilia, book IV, chapter II. Of course, our information is enriched by numerous indirect and less outstanding references.

In daring to discuss ancient Greek Music one exercises great temerity. The problem is difficult because we have so very few actual fragments of written music, and such differing reports from the theorists. The long-standing controversy regarding the nature of the ancient modes was nearly settled by Westphal, only to be re-opened by Monro and the French discoveries at Delphi. Mr. Hubert Parry, quoted by Mr. Monro in his masterly treatment of "The Modes of Ancient Greek Music", suggests that

"a large portion of what has passed into the domain of 'well-authenticated fact' is complete misapprehension, as Greek scholars have not time for a thorough study of music up to the standard required to judge securely of the masters in question, and musicians as a rule are not extremely intimate with Greek." (1) Mr. Monro goes on to offer his interpretation of the ancient texts as a "somewhat more trustworthy basis for their criticism of Greek music as an art." And so we shall accept it in this study, since we cannot make our own interpretation. Macran's Aristoxenus gives an excellent translation of the principal Greek theories.

Before leaving the question of sources, it would be well to face the problem raised by Frederick Nolan. "It has been objected by Rousseau whose profound skill in the art was only surpassed by his exquisite taste, that since music has been cultivated as a science by the French, it has perceptibly declined among their native artists. The ancient music with which I am more immediately engaged, furnishes an illustrat ion of the position, which is

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(1) Monro - page 2 in Preface.

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(1) Monro - page x in Preface.

no less opposite and striking; the inquiries of the Greeks into the philosophy of sounds having been destitute of practical effect upon the art; the principles which they developed having conduced to no end but the production of a purely theoretical music. * * * When the line is distinctly marked between the theoretical and the practical music of the Greeks, and a just idea recovered of their constitution and nature, it will be plain that, while the principles by which the one was directed ended in fanciful and barren speculation, the practice which the other followed preserved a conformity with the phenomena of nature." (1) Obviously, if the theoretical works which we are able to study are valueless as indices of the actual musical life of the time which we are not able to study, our inquiry concerning the ethos or moral power of Greek music becomes farcical, for ethos is a characteristic for which mere theory has no data. An understanding of it must come from a knowledge of music that is woven into life, for morality is exclusively human and actual. There are, however, two strong attacks to be made on Nolan. The first

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(1) Nolan - On the Theoretical Music of the Greeks - page 2.

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is historical. The great mass of the history of human music goes to prove that the theorists of a period are completely dependent for their original data on the actual music of the period; that though the rustic may go on singing folk-tunes, unconscious of their mode or form, the theorist can not go on creating theories out of songless air. The Greek schoolboy may have cared nothing about the intricacies of Aristoxenus, but Aristoxenus ~~had~~ was forced to notice how the schoolboy sang and played. The second attack on Nolan is evidential. When such pages of references from the works of men in many walks of life can be amassed as those brought together by Monro, we are faced by a host of witnesses to an interest in actual existing music and to an actual experience of music.

## Educational Setting

As the uninitiate idealizes music indiscriminately, so the unsophisticated historian idealizes ancient Greece. Whether or not we think Greek intellectual freedom the highest point in the history of civilization, we cannot help but admit to the Greeks supremacy in grace, as also in the arts of sculpture and drama. The physical characteristics of Greece - mountains, air, and sea, developed a cheerful, life-loving people. (Laurie, page 209). Their separation into tribes with different dialects, the Doric, Aeolic, Ionic, etc., and their numerous civic centres, developed their independence and spirit of freedom. Laurie says: "It is true that freedom and the spirit of independence were inate in the Hellenic character; but they were undoubtedly fostered into an almost feverish activity by social, geographical and political conditions." (1) The flower of this activity was the Greek ideal - "proportion", according to Thomas Davidson, resulting in what the Greeks called καλοκἀγαθία, "fair-and-goodness". Either half of this ideal was named ἀρετή, translated "worth", or "excellence", or "virtue".

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(1) Laurie - page 209.

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We are expressly told by Aristotle (Categories, chapter VIII) that the adjective σπουδαῖος is (spoudaios), a word which we usually render into English by "earnest". "And we do so with reason; for to the Greek, excellence or worth meant, above all, earnestness, genuineness, truthfulness, thoroughness, absence of frivolity." (1) The strange paradox here between our first interpretation - that of grace and harmony - and the "truthfulness and absence of frivolity", emphasized by Davidson may be resolved when we realize that grace and harmony are gained only through a thorough discipline. There is great difference of opinion among the critics about the presence or absence of frivolity, with a general tendency to think the later education frivolous. In typically satirical vein, Aristophanes' passage in the "Clouds" about the old and new education shows a foolishness in each, with no conclusive evidence to the general laxness of the latter or the seriousness of the former. However, though we refute any absolute distinction in morality between the old and new education, we must admit a tendency away from

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(1) Davidson - Aristotle, Chapter II

discipline to freedom, from state and legalistic thinking and living, to individualistic and free thinking and living. The earlier ideal in partial expression is seen in the Ephebic oath and in its broadest form is well stated in Thucydides' report of the funeral oration of Pericles. The following are some of the elements it contained: "We are lovers of the beautiful, yet simple in our tastes"; have a democracy, yet "a spirit of reverence pervades our public acts"; preference to "meet danger with a light heart"; attitude of regarding "a man who takes no interest in public affairs, not as a harmless, but as a useless character; and if few of us are originators, we are all sound judges of policy"; "the individual Athenian in his own person seems to have the power of adapting himself to the most varied forms of action with the utmost versatility and grace"; and "I would have you day by day fix your eyes upon the greatness of Athens until you become filled with the love of her." Perhaps no passage better expresses the broadest ideal of the later period than the famous one of Plato, quoted partially in this essay. It is well to have the whole section before us. "Education and admonition commence in the very first years of childhood, and

last to the very end of life. Mother and nurse and father and tutor (παιδαγωγός) are quarrelling about the improvement of the child as soon as ever he is able to understand them. He cannot say or do anything without their setting forth to him that this is just and that is unjust; that this is honorable, that is dishonorable; this is holy, that is unholy; do this, and abstain from that. And if he obeys, well and good; if not, he is straightened by threats and blows, like a piece of warped wood. At a later stage they send him to teachers, and enjoin them to see to his manners even more than to his reading and music; and the teachers do as they are desired. And when the boy has learned his letters, and is beginning to understand what is written, as before he understood only what was spoken, they put into his hands the works of great poets, which he reads at school; in these are contained many admonitions and many tales and praises, and encomia of ancient famous men, which he is required to learn by heart, in order that he may imitate or emulate them, and desire to become like them. Then, again, the teachers of the lyre take similar care that their young disciple is steady and gets into no mischief;

and when they have taught him the use of the lyre, they introduce him to the works of other excellent poets, who are the lyric poets; and these they set to music, and make their harmonies and rhythms quite familiar to the children, in order that they may learn to be more gentle and harmonious and rhythmical, and so more fitted for speech and action; for the life of man in every part has need of harmony and rhythm. Then they send them to the master of gymnastics, in order that their bodies may better minister to the virtuous mind, and that the weakness of their bodies may not force them to play the coward in war or on any other occasion. This is what is done by those who have the means, and those who have the means are the rich; their children begin education soonest and leave off latest. When they have done with masters, the State, again, compels them to learn the laws, and live after the pattern which they furnish, and not after their own fancies; and just as in learning to write, the writing master first draws lines with a stylus for the use of the young beginner, and gives him the tablet, and makes him follow the lines, so the city draws the laws, which were the invention of good law-givers which were of old time; these are given to the young man in order to guide him in his conduct, whether

as ruler or ruled; and he who transgresses them is to be corrected or called to account, which is a term used not only in your country, but in many others." (1)

Of course we shall realize that the ideals here quoted were either better clarified than the ideals of the average person within the system, or were even expressed in contradiction to some current thoughts and practices, as, for instance, were most of the teachings of Socrates. But this is a common historical paradox, and we are forced to choose either the ideals formulated by the greatest minds of an age, or the amorphous products of the "general average".

The historical background and setting for this period can be briefly surveyed in the following table:

| | |
|---|---|
| 2500 - 2000 B.C. | - Greeks enter Greece from Southern Europe |
| 1350 - 1100 B.C. | - Greeks have mastered present Greek world |
| 1193 - 1184 B.C. | - Trojan Wars |
| C.1100 | - Spartans master Southern Greece |
| 900 - 700 | - Period of Greek epic poetry - Homer |
| 750 - 550 | - Period of Greek colonization |

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(1) Protagoras - page 325 C. as translated in Mahaffy "Old Greek Education"

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(1) Protagoras - page 325 C. as translated in Marrou "Old Greek Education"

700 - Work of Heriod - first collector of anecdotes about the gods

621 - Drace - the great law-giver of Athens

594 - Solon in Athens

590 - Seven wise men of Greece:
Solon in Athens
THALES in Miletus
Chilo in Sparta
Bias in Priene
Periander in Corinth
Pittacus in Mytilene
Cleobulus in Rhodas

582 - Pythian games at Delphi

500 - 406 - Period of Greek Drama

Sept.12, 490 - Marathon

August, 480 - Thermopylae

September 480- Salamis

479 - Plataea

461 - Pericles in power in Athens

C.461 - 440 - Golden Age of Pericles

Men of the age:

| | |
|---|---|
| Pericles | Pindar |
| Themistocles | Sophocles |
| Phidias | Euripides |
| Aeschylus | Aristophanes |
| Herodotus | Thucydides |

The Age of Athenian Democracy
The building of the Parthenon

431 - 404 - Peloponnesian War

399 - Death of Socrates

383 - 322 - Demosthenes - orator and demagogue

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| 371 | Total defeat of Sparta by Thebans under Epanimondas |
| 347 | Death of Plato |
| 338 | Philip of Macedonia conquers Greece |
| 356 - 323 - | Alexander the Great |
| 322 | Death of Aristotle |
| 146 | Rome is master of Greece |

(1)

"The stream of Hellenism ran in two currents. Underlying the local diversity which made every little town ethically and artistically distinct from its neighbor, was the fundamental difference between Dorian and Ionian, - clearly marked in every aspect of life, this difference was most marked in the schools." (2) This difference, originally racial, became a difference of taste, temperament and ideals. Dorian indicated broadly, the even, courageous, moderate, practical life - and music. Ionian was more passionate, artistic, and high-pitched. The one made for a solid nation, the other for individual development.

Education in Sparta:

In a state where nine-tenths of the population were slaves there was compulsory state education for the sons of freemen only, with some few "foster-children" or foreigners also allowed. "Sparta was

(1) From lecture notes in course in History of Religious Education by Professor Booth, B.U.S.R.E. 1928-29

(2) Freeman - page 6

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a democracy only within the aristocracy". (1) The full Spartan citizen did not have to work. There was a minister of education in the Spartan government, but no professional class of teachers. The old men of the state considered the educational tasks of peacetime as part of their duty to the state, whose compelling interest was preparation for war. Those babies who survived the health examination of the elders were allowed to live at home until seven years of age. Then they were put into army barracks by the state and trained in the famous Spartan methods of discipline and cleverness - an almost entirely physical education. From twenty to thirty they were in foreign service. At thirty they became citizens of Sparta. "Every one at Sparta was a part of a beautifully organized machine, designed almost exclusively for military purposes." (2) Individualizing tendencies had to be stamped out in the state schooling. Yet they were human. "There were no luxuries for anyone in Sparta; the houses and furniture were as plain

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(1) Prof. Booth in lectures in History of Religious Education, with beginning of "Education in Sparta".

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(2) Freeman - School of Hellas, page 12

as the food. But there is a charming picture of Agesilaos riding on a stick to amuse his children." (1) Kenneth Freeman stresses the importance of the Spartan "leschai", o r conversational-clubs. Stealing, fighting, out-door exercise, were main points in Spartan education. Religion, an orthodox devotion to their gods, was taught by feasts and festivals, in which choral dancing was supposed to be the major instrument.

Spartan singing was choral, antiphonal, and always about the gods and the glory of Sparta. Instruments were used to accompany dances and drills. They charged into battle to the notes of a flute. March tunes were in frequent use. The only experience of singing which most Spartans possessed was through chorus-dancing, according to Plato, Laws, 666 D. (2) However, elegies were sung as solos before the king's tent on campaigns, and at meals, when the victor got a particularly good slice of meat; but probably this accomplishment was confined to a few. Aristotle asserts that the

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(1) Ibid, page 13

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(2) See Freeman, pages 31-32 on this

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(1) Ibid. page 13

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Laconians did not learn songs, but claimed nevertheless to be able to distinguish good from bad.

Education in Crete:

As in Sparta, so in Crete, the teaching was given by any elder member of the community who chose, not by a professional and paid class of masters. Here again were large public estates, cultivated by serfs; dining-clubs which were the center of social interests; dormitories for the boys of one club or clan formed the school unit. Gymnastics and war-dances, doubtless accompanied by music sometimes choral and sometimes instrumental, - the laws of their country set to a sort of tune, hymns to the gods, and praises of good men, - completed their recorded musical experience. "The favorite metre for these purposes was the Cretic (– ∪ —), which was regarded as "severe" and so suitable for teaching courage and restraint. The Paean was their chief national form of song." (1) "On certain fixed days 'pack' joined battle with 'pack' to the sound of the lyre and flutes in regular time, as was the custom in war." (2)

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(1) Freeman, page 36

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(2) Freeman, page 38

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(1) Freeman, page 30

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(2) Freeman, page 32

Spartans and Cretans passed on attitudes and skills to their youth in a fully conscious way. There was little knowl edge which they had, or thought necessary to be passed on. A little Homer and Hesiod, "letters because they were useful", (1) an unselfconscious dialectic to arm them in discussion, and that was all. The paramount concern with preparation for war moulded all other attitudes and decided the skills taught, i.e. stealing, marching, etc. Their Homeric gods were war-like. Their conception of the purpose of a man's life was to serve his country; of a woman's life, to raise sons for her country. The needs of man's life were for discipline, restraint, cleverness, courage, loyalty. Almost the same can be said for Crete as far as our knowledge of her goes.

Laurie quotes Plutarch thus concerning Spartan music: "Their songs had a life and spirit in them that inflamed and possessed men's minds with an enthusiasm and ardor for action; the style of them was plain and without affectation; the subject always serious and moral; most usually it was in praise of such men as had died in defence of the country, or in derision of those that had

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(1) Plutarch "Lycurgus", quoted in Freeman, page 20

been cowards; the former they declared happy and glorified; the life of the latter they described as most miserable and abject. Indeed, if we will take the pains to consider their compositions, some of which were still extant in our days, and the airs on the flute to which they marched when going to battle, we shall find Terpander and Pindar had reason to say that music and valour were allied. The former says of Lacedaemon:

> The spear and song in her do meet
> And justice walks about her street;

and Pindar:

> Councils of wise elders here,
> And the young men's conquering spear,
> And dance, and song, and joy appear;

both describing the Spartans as no less musical than warlike; in the words of one of their own poets:

> With the iron stern and sharp
> Comes the playing of the harp.

For indeed, before they engaged in battle, the living first sacrificed to the Muses, in all likelihood to put them in mind of the manner of their education and of the judgment that would be passed upon their actions, and thereby to animate them to the performance of exploits that should deserve a record." (1)

Though considered powerful, the music of the Spartans was very limited in range. "It is said that

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(1) Laurie, page 250

(1) Laurie, page 350

when the musician Phrynis came from Lesbos to Sparta with a new-stringed cithara, the ephor then in power cut off two of the strings." (1) The eleven-stringed cithara suffered a like sad fate. Doric melody and the seven-stringed cithara of Terpander were as unchangeable for the Spartans as their will to die rather than ever retreat.

Obviously then, both in Sparta and in Crete, powers were attributed to music, and discrimination exercised in its case. These powers were evidently in the realm of moulding human emotions, and through them, character. They believed music could make them courageous, that in its severer forms it could teach restraint - both typically Doric ideals. We have called this type of power ethos, and we shall classify the Spartan and Cretan ethos as Dorian.

A music which must have existed, but of which we will never know, is the spontaneous folk music of the serfs, who had no time nor skill to record it, but who, like all people, and especially all serf people, must have had to sing. This music doubtless was neither Dorian nor Ionian, not being limited by

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(1) Laurie, page 251

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(1) Laurie, page 251

preconceived ideals and purposes, but springing freely and naturally from human hearts.

Athenian Education and the Music Schools:

Comparing education in Athens with Sparta's limited public education, we learn that in Athens "education was public only in so far as it was subject to close state supervision of the general results to be expected of home training or individual private institutions. It could be given in the home, but was more commonly obtained in private schools. In contradistinction to the general authority and responsibility of adults at Sparta, a law of Solon forbade any adults save teachers and pedagogues entering the school. There was not the training in large groups as at Sparta, though the ability to act in common and the community sentiment were developed to some extent through the religious chorus, dance and procession." (1)

Although the citizens of Athens did not comprise a landed aristocracy as in Sparta and in Crete, "the cheapness and abundance of serf or slave labour made it possible for a large proportion of the free population to live in idleness and devote their time

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(1) Monroe - Source Book of the History of Education for the Greek and Roman Period; page 11

to the development of the body by physical exercise, of the mind by perpetual discussions, and of the imagination by art and music." (1) There were, however, people who wished to learn trades, and people who were willing to teach. But Plato still maintained that "Technical instruction and all teaching which aimed only at money-making was vulgar and did not deserve the name of education. True education aims solely at virtue, making the child yearn to be a good citizen, skilled to rule and to obey." (2)

In early Athens, the child lived at home from birth to seven years of age. From seven to eighteen years he was in school. The schools were divided into three fields: grammar, music, and gymnastics. The grammar department included literature, etc.; the music was for the purpose of teaching religion and ethics; and the gymnastics were for military training. In later Athens religion was taught by worship of the family gods, civic recognition of the gods, hymns and choruses to the gods. Athens' freedom in her treatment of

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(1) Freeman; page 43

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(2) Freeman; page 46, quoting Plato Laws, 643-A

music to the gods contrasts with Sparta's antipathy to innovations as does her freedom in thinking contrast with Sparta's mechanism. There was a teaching profession in Athens, though it was the lowest possible for a freeman. Curiously enough, although there was no civil training, education was almost compulsory. An Athenian law provided that a son must take care of his father in old age if the father had properly educated the son. At eighteen, the boy took the Ephebic oath and entered military training. At twenty he had earned full citizenship rights.

Studying the music schools more in detail, we find that grammata and mousike (in the narrower sense - as we have defined it for our use) together constituted Mousike in its larger sense. Memorization was used partially in the teaching of reading, which developed into the practice of beautiful reading, soon used with music as described by Plato in the passage quoted earlier. We are deeply indebted to the plates in Kenneth Freeman's book in helping us to visualize the scenes in the music-master's house. Every boy was given opportunity to learn to play an instrument. The plates show us varying individual reactions; an earnest pupil nearly

deafening his flute master, another touching the lyre so magically that his master is deeply moved. The seven-stringed lyre (originally four strings) was used often. The cithara was more of a professional instrument, with a sounding board and plektron. The flute was also taught, especially after the Persian wars. It was held in disrepute by some whose record comes down to us. For example, Plutarch relates that Alcibiades refused to play on the flute, partly on account of the contortions of the face to which it gave rise, partly because he who played it could neither speak nor sing while so doing. The chanting and singing of songs was, according to Laurie, the basis of all Greek literary education. (Laurie, page 276) The music was subservient to the words. The boys were instructed in rhythm and melody and their ear trained to a feeling of the measure. Table songs were learned by heart for use at social meetings. "These songs, pithily and wittily enforced homely sentiments, and the principles of morality, patriotism and worldly wisdom."(1)The Dorian mode was usually used for such

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(1) Ibid, page 278

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(1) Ibid, page 278

purposes. "The poetry and music together formed a single work of art." (1) The literary materials at hand for the musician were rich and varied. "In the seventh century before Christ we have in the elegiac and lyrical poets a natural development of the heroic rhapsodist and religious hymn-writer. (Callinicus, Archilochus, Tyrtaeas, Alcman, and Sappho.) The sixth century is especially the period of gnomic or ethical poetry, - Solon, Theognis, Pericles, and the sayings of the Wise-men. At the end of this century and the beginning of the fifth we have again the lyrical poets, Anacreon and Pindar; and about the same period, tragedy - a combination and evolution of the gnomic, the heroic, and choral lyric - was firmly established by Aeschylus." (2)

It is these table songs, hymns, tragic choruses, etc., which were used by people of all ages, which comprised the musical experience of the adults. "He doesn't know the way to play the lyre" became a proverb for an uneducated person, who had not had so many opportunities in life as his wealthier fellow-citizens. So, as a plea for a defendant we find -

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(1) Ibid, page 279

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(2) Ibid, page 280

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(1) Ibid, page 279

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(2) Ibid, page 280

He may have stolen - But acquit him, for
He doesn't know the way to play the lyre
(Fr. Aristophanes' Wasps, 989) " (1)

The theorists discussed the moral character of music particularly in relation to the studies of the young, but the taste of the whole nation was decided by this education, so that the adults together with the youth were subject to a discriminating use of the different kinds of music.

It is difficult to draw a line in this development, between the old and the new Greek education. The famous section in the "Clouds" of Aristophanes emphasizes discipline and modesty in the older school of the Harp-master, a learning of old songs by rote, contrasted with the newer lack of reverence and modesty, and the use of new, more complex modulations, like those introduced by Phrynis of Mitylene. When old Strepsiades, in the "Clouds", asked Pheidippides to take the lyre and sing a song of Simonides, his new-fashioned son replied that playing the lyre was quite out of date, and singing over the wine was only fit for a slave-woman at the grind-stone. "At the beginning of the fifth century the Hellenes were stimulated, according to Aristotle, by their growing wealth and

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(1) Freeman - page 110

importance to make many educational experiments, especially in music. All manner of musical instruments were tried in the music-schools, but were rejected on trial, when the moral effects could be better appreciated. Among the instruments thus found wanting was the flute. At one time the flute became so popular in Athens that the majority of the free citizens could play it. But its moral effect proved to be unsatisfactory; it was the instrument which belonged to wild religious orgies, and it aroused that hysterical and almost lunatic excitement which the Hellenes regarded as a useful medicine, when taken after long intervals of time, for giving an outlet to such feelings and working them out of the system, in order that a long period of calm might follow. But such a medicine was most unsuitable to be the daily food of boys." (1) However, the flute was played by noted Athenians, Callias, Critias, and Alcibiades, and always remained popular at Thebes.

In the earlier Athenian education we have a definite civil attempt to pass on to the youth the knowledge, attitudes, and skills of the adults. It is difficult to ascertain how rigid the school system remained. Certainly the contact with the Oriental

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(1) Aristotle - Politics VIII, 6, 11

world in the Persian Wars would change the general outlook. Even while the public schools were still carried on, new teaching agencies arose such as the schools of the Sophists, the conversational lessons of other teachers, and the thinking lessons of Socrates. Before discussing educational theories which dealt with the place and influence of music, we must study the actual character of that music.

## Greek Music

The material on Greek Music found in Grove is more completely discussed in Monro, "The Modes of Ancient Greek Music". As a background for discussion of Johnson, Nolan, the Musical Times, articles, etc., we shall outline Monro, leaving all reference to ethos to the last. It will serve also as an enlightening background for Aristoxenus himself.

We will quote Monro's introduction in full as giving as concisely as possible his approach to the study: "The modes of ancient Greek music are of interest to us not only as the forms under which the Fine Art of Music was developed by a people

of extraordinary artistic capability, but also on account of the peculiar ethical influence ascribed to them by the greatest ancient philosophers. It appears from a well-known passage in the 'Republic' of Plato, as well as from many other references, that in ancient Greece there were certain kinds or forms of music, which were known by national or tribal names - Dorian, Ionian, Phrygian, Lydian, and the like - that each of these was believed to be capable, not only of expressing particular emotions, but of reacting on the sensibility in such a way as to exercise a powerful and specific influence in the formation of character; and consequently that the choice, among these varieties of the musical forms to be admitted into the education of the state, was a matter of the most serious practical concern. If on a question of this kind we are inclined to distrust the imaginative temper of Plato we have only to turn to the discussion of the same subject in the 'Politics' of Aristotle, and we shall find the Platonic view criticized in some important details, but treated in the main as being beyond controversy.

"The word ἁρμονία 'harmony', applied to these forms of music by Plato and Aristotle, means literally 'fitting' or 'adjustment', hence the 'tuning' of a series of notes on any principle, the formation of a 'scale' or 'gamut'. Other ancient writers use the word τρόπος, whence the Latin modus and our mood or 'mode', generally employed in this sense by English scholars. The word 'mode' is open to the objection that in modern music it has a meaning which assumes just what it is our present business to prove, or disprove, about the 'modes' of Greek music. The word 'harmony' however, is still more misleading, and on the whole it seems best to abide by the established use of 'mode' as a translation of ἁρμονία, trusting that the context will show when the word has its distinctively modern sense and when it simply denotes a musical scale of some particular kind.

"The rhythm of music is also recognized by both Plato and Aristotle as an important element in its moral value. On this part of the subject, however, we have much less material for a judgment. Plato goes on to the rhythms after he has done with the modes, and lays down the principle that they must

not be complex or varied, but must be the rhythms of a sober and brave life. But he confesses that he cannot tell which these are (ποῖα δὲ ποίου βίου μιμήματα οὐκ ἔχω λέγειν), and leaves the matter for future inquiry." (1)

There are two relations in which the scales employed in any system of music may stand to each other; they may be related by a variation in pitch only, or by a difference in the order in which the intervals follow each other. In modern music we have two modes, and each of them may be in any one of twelve keys. It is evidently also possible that a name such as Dorian or Lydian could indicate a particular mode in a particular key - that is, at a definite pitch. The prevailing theory which Monro is questioning was that the famous names had a double application; that there was a Dorian mode as well as a Dorian key, etc., the former being based solely upon pitch, the latter upon the species of scale. So Boeckl, in "De Metris Pindari", lib. III CC VII XII, lays the foundation for our knowledge of Greek music. It is also expounded by Westphal, and adopted by M. Gevaert. These scholars find basis for their theory in the old authorities, which are, namely,

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(1) Monro - Modes of Ancient Greek Music - Introduction, Page 1.

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(1) Monro - Modes of Ancient Greek Music - Introduction, Page 1.

Aristoxenus (and later works of the same school), incidental references to music in the "Republic" and the "Politics", from Heraclides Ponticus, the "Problems", and one or two notices in lexicographical works such as the "Onomastrion" of Pollux. Monro's study will endeavor to show that there was no double usage, that the scales differed primarily in pitch. He preserves chronological order in his treatment of the sources.

From references (1) in the <u>early poets</u> we find these scales mentioned - "A highly strung music", "the low-pitched Ionian", the "middle plough-land.....Aeolian", "the Phrygian measure", "the shrill-voiced notes.... of the Lydian", and the Dorian, subject of an elaborate jest made at the expense of Cleon in the "Knights" of Aristophanes, ll.985-996.
(2) Plato, in the "Republic" - page 398 - classifies the Mixo-lydian, the Syntono-lydian, and such-like as plaintive; the Ionian and Lydian, those which are called slack, as soft and convivial; when only the Dorian and Phrygian are left uncondemned. (The absence of Aeolian from this passage raises a question as to whether it had gone out of use at this time.)

(3) Heraclides Ponticus maintains that there are three modes belonging to the three Greek races - Dorian, Aeolian, and Ionian. He thought the Phrygian and Lydian had no right to the name of mode or 'harmony'. Heraclides is inclined to say that the Ionian was a strange aberration in the form of the musical scale. (*) "He goes on to protest against those who do not appreciate differences in kind (.....), and are guided only by the high or low pitch of the notes (.....) so that they make a Hyper-mixolydian, and another again above that." (*) He held that a new mode ought to have a distinct moral or emotional character. The Phrygian and Lydian were said to have been brought to the Peloponnesus by the followers of Pelops. Heradides' opinions on theoretical music must be accepted with reserve.

(4) Aristotle, dealing with music from the point of view of the cultivated layman, mentions Mixolydian, the "relaxed" modes, Dorian, and Phrygian. And in the "Problems", a collection which is probably not the work of Aristotle himself, but can hardly be later than the Aristotelian age, and has material on the modes which is clearly of the period before the reform of Aristoxenus, - the question is asked

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(*) Monro, page 10

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why the Hypo-Dorian and Hypo-Phrygian are not used in the chorus of tragedy, Also the Mixolydian is mentioned. Pitch as influencing the emotional character of music is noticed by Aristotle. "Speaking of the rise of acting, which was originally the business of the poet himself, but had grown into a distinct art, capable of theoretical as well as practical treatment, he observes that a similar art might be formed for oratory. 'Such an art would lay down rules directing how to use the voice so as to suit each variety of feeling,- when it should be loud, when low, when intermediate; and how to use the keys, when the pitch of the voice should be high or low or middle ( · · · · ); and the rhythms, which to use for each case.' " (*)

(5) Aristoxenus was a technical writer, a contemporary and pupil of Aristotle. His works on music were many, of which only three have survived to us. In the treatment he adopts, the chapter on keys follows the chapter on 'systems'. His 'systems' were scales consisting of a certain succession of intervals; in other words, a series of notes whose relative pitch is determined. Such a system may vary in absolute pitch, and the keys are simply the different degrees of pitch at which a

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(*) Monro, page 15

(*) Nomo, page 15

particular system is taken. When the system and key are both given it is evident that the whole series of notes is determined. Aristoxenus is the chief authority on the keys of Greek music. "In this department he is considered to have done for Greece what Bach's Wohltemperirtes Clavier did for modern Europe. It is true that the scheme of keys which later writers ascribe to him is not given in the Harmonics which we have; but we find there what is in some respects more valuable, namely, a vivid account of the state of things in respect of tonality which he observed in the music of his time.

" 'No one', says Aristoxenus (p.37 Meib.) 'has told us a word about the keys, either how they are to be arrived at ( , , , . ), or from what point of view their number is to be determined. Musicians assign the place of the keys very much as the different cities regulate the days of the month. The Corinthians, for example, will be found counting a day as the tenth of the month, while with the Athenians it is the fifth, and in some other place the eighth. Some authorities on music (ἁρμονικοί) say that the Hypo-Dorian is the lowest key, the Mixo-Lydian a semitone higher, the Dorian again a semitone higher, the Phrygian a tone

above the Dorian, and similarly the Lydian a tone above the Phrygian. Others add the Hypo-Phrygian flute ( i.e. the scale of the flute so called) at the lower end of the list. Others, again, looking to the holes of the flute ( · · ·· ) separate the three lowest keys, viz, the Hypo-Phrygian, Hypo-Dorian, and Dorian, by the interval of three-quarters of a tone ( · · · ), but the Phrygian from the Dorian by a tone, the Lydian from the Phrygian again by three-quarters of a tone, and the Mixo-Lydian from the Lydian by a like interval. But as to what determines the interval between one key and another they have told us nothing.' " (*)

Monro goes on to point out that there was disagreement about the place of the Mixo-Lydian, some putting it immediately below the Dorian, others above the Lydian. The difficulties in the MSS of Aristoxenus to which this may be due are not for this study. It is evident that in the time of Aristoxenus considerable progress had been made toward the scheme of keys which was afterwards connected with his name. The following table can represent the order, being especially important in the conformity which it shows with the diatonic scale.

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(*) Monro, page 16

| | |
|---|---|
| | (Mixo-lydian |
| Semi-tone | ) |
| | (Lydian |
| Tone | ( |
| | Phrygian |
| Tone | ( |
| | Dorian |
| Semi-tone | ( |
| | Hypo-Dorian (Hypo-Lydian) |
| Tone | ( |
| | Hypo-Phrygian |
| Tone | ( |
| | (Hypo-Dorian) |

"The result of this conformity is that the keys stand in a certain relation to each other. Taking any two, we find that certain notes are common to them. So long as the intervals of pitch were quite arbitrary, or were practically irrational quantities, such as three-quarters of a tone, no such relation could exist. It now became possible to pass from one key to another, i.e. to employ modulation (μεταβολή) as a source of musical effect. This new system had evidently made some progress when Aristoxenus wrote, though it was not perfected, and had not passed into general use." (*)

The names of the keys need explanation. In the final Aristoxenean system, Hypo implies that a key is lower by the interval of a fourth than the key to whose name it is prefixed. Thus the relation

---

(*) Monro, page 19

| | |
|---|---|
| Semi-tone | Mixo-lydian |
| Tone | Lydian |
| Tone | Phrygian |
| Semi-tone | Dorian |
| Tone | Hypo-Dorian (Hypo-Lydian) |
| Tone | Hypo-Phrygian (Hypo-Dorian) |

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(*) Monro, page 19

was, in modern terminology, as tonic to dominant. But in only one case, that of the Hypo-Phrygian, was that true of the system, we have just discussed. Evidently the technical meaning of hypo was coming into use. It led naturally to the use of hyper in the inverse sense. By further steps, of which there is no record, the Greek musicians arrived at the idea of a key for every semitone in the octave; and thus was formed the system of thirteen keys, ascribed to Aristoxenus by later writers.

We shall here refer to the tables showing the development, found very fully in Grove, following Aristoxenus. (See tables in Appendix.)

Notes on tables from Grove - "Dictionary of Music and Musicians", Article on Greek Music.

A. Concords: A scale is the basis of the material of the musical arts, and is ultimately determined by concords, in which, therefore, we touch the beginning of all music. A concord contains a relation and a direction of a relation; i.e., in every concord there are two related notes, and one of them is more fundamental, more akin to the tonic than the other. Ancient Greeks recognized

as concords, or concordant intervals, the foundation of a note (1) on its fourth above, (2) on its fifth below, (3) on its octave above, (4) on its octave below. Thirds and sixths were discords for the Greek ear.

B. Scales: The elementary scale is the tetrachord which is built on an assumption of the following rules: (1) the smallest concord is the fourth with the upper note as tonic; (2) this space cannot be divided by more than two intermediate notes; (3) no interval smaller than a quarter-tone can be produced or discriminated; (4) in the division of a fourth, when the upper note is tonic, the lowest interval must be equal toor lessthan the middle, and less than the highest. The recognition of these rules leaves an infinite variety of possible determination of the inner notes of the tetrachord; but three are taken as typical, and the classes represented by these types are called the genera of music,- the enharmonic, the chromatic, and the diatonic.

(See Table I, first section)

The more ample scales are produced by the collocation of two or more tetrachords; by conjunction, in which case the highest note of the lower tetrachord

coincides with the lowest of the higher; by disjunction, in which a tone separates the several tetrachords from one another; or by alternate conjunction and disjunction, which gives a non-modulating scale like our white notes.

C. The Form of the Modes: A piece of evidence - obvious today - for the existence of modes, is that one looking for a segment of the infinitely prolonged scale made from the third method of collocating tetrachords which would supply the notes for the first phrase of "Voi de sapete", must look in a different segment from that supplying the notes for "Deh veni, non tarder". The table following indicates the composition in intervals or tones, of each mode.

(See Table I )

D. Pitch of the Modes: It is a law of Greek music that the tonic be the constantly recurring note in every melody. Therefore, every mode will take its pitch-character from the position the tonic occupies in it. Thus, the Mixolydian is intrinsically high-pitched because, since its tonic lies near its upper extremity, in any melody written in that mode the upper notes will be predominant. From the intrinsic pitch-

character arises the relative determination of the pitch of the modes. Since the Lydian Tonic (diatonic) is a tone and a half from the top, and four and a half tones from the bottom of the Lydian mode; while the Dorian tonic is three and a half tones from the top, and two tones and a half from the bottom of the Dorian, it follows that the Lydian mode is two tones higher than the Dorian.

(See Table II )

E. Keys: Developed art called for a more ample scale than the octachord. Tetrachords were added above and below, as for example in the following diagram:

tone ½ tone tone tone ½ tone tone tone

tone ½ tone tone tone ½ tone tone tone

One may refer to Grove for complete and large tables of the extended scales in the three genera and the many modes.

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Returning to Monro, in his reference to Plutarch's Dialogue on Music, we find that his material deals mainly with the ethos of the modes, to which we shall return later. In an anonymous treatise on music published by Bellerman, Monro finds the following

statement regarding the use of the modes or keys in the scales of different instruments: (ἁρμονία)

" 'The Phrygian mode has the first place on wind instruments: witness the first discoverers - Marsyas, Hyagnis, Olympus - who were Phrygians. Players on the water-organ (ὑδραύλα) use only six modes (τρόποι ) viz. Hyper-lydian, Hyper-Ionian, Lydian, Phrygian, Hypo-Lydian, Hypo Phrygian. Players on the cithara tune their instrument to these four, viz. Hyper-Ionian, Lydian, Hypo-Lydian, Ionian. Fluet-players employ seven, viz. Hyper-Aeolian, Hyper-Ionian, Hypo-Lydian, Lydian, Phrygian, Ionian, Hypo-Phrygian. Musicians who concern themselves with orchestic (choral music) use seven, viz. Hyper-Dorian, Lydian, Phrygian, Dorian, Hypo-Lydian, Hypo-Phrygian, Hypo-Dorian.' "

Monro's initial problem, whether ἁρμονία and τόνος denote two sets of musical forms, or are merely two different names for the same thing, is of great importance to our special problem, because the strong ethical power attributed to the different modes could be better understood if it could be proved that the modes differed in pitch as well as in internal intervals, and it would be easier to believe there was a nearly absolute criterion, rather than an individual one, for judging the ethos of

each mode. Monro's points are (1) that the various passages studied, especially from Plato and Aristotle, show that the ancient modes called ἁρμονία differed in pitch and that this difference was regarded as the chief source of the peculiar ethical character of the modes; (2) that the list of τόνοι as gathered from Plato, Aristotle, Heraclides Ponticus, etc., is substantially the same - with agreement in detail which cannot be purely accidental - as the list of τόνοι described by Aristoxenus; (3) that the writers do not use either or both words as if there were a distinction; and (4) if a series of names such as Dorian, Phrygian, etc. were applied to two sets of things so distinct from each other as modes and keys, there would have been trace of the double usage. Yet our authorities show no sense even of possible ambiguity. This last point seems to me strongly conclusive.

The arguments in favor of identifying the primitive national modes (ἁρμονίαι) with the or keys (compare Nolan's theory, discussed under Greek music in the Introduction) may be reinforced

by the use of another ancient term, σύστημα, or system, which was a group or complex of intervals. See, however, Macran's objections later. A system was musical if the notes in it were such as might be used in the same melody. The idea of a small number of scales, of a particular compass, available for the musician was naturally suggested by the lyre, which at first had only four strings. The word string (χορδή) came to be used with the general sense of note of music; and in this way the strings of the lyre gave their names to the notes of the Greek gamut.

## Technical System and Genus

The names of the notes in the octachord system were named as follows, from their place on the lyre:

Nêtê (νεάτη or νήτη, lit. "lowest", our "highest").
Paranêtê (παρανήτη, "next to Nêtê").
Tritê (τρίτη, i.e. "third "string).
Paramese (παραμέση or παράμεσος, "next to Mesê").
Mesê (μέση "middle string").
Lichanos (λιχανός, i.e. "forefinger "string).
Parypatê (παρυπάτη).
Hypatê (ὑπάτη, lit. "uppermost", our "lowest").

We know already of the tetrachord unit. Within each tetrachord the intervals depend upon the

genus (γένος). In the octachord the lower tetrachord consists of the notes from Hypate to Mese, the higher from Paramese to Nete, the interval between Mese and Paramese being the so-called disjunctive tone. The four outside notes, therefore, are the same for every genus, and accordingly are called the "standing" or "immovable" notes, while the others vary with the genus, and are, therefore, "moveable". For the way this was worked out, see Tables I and II.

The Greater and Lesser Perfect Systems were extended scales; the greater consisting of two octaves formed from the primitive octachord system by adding a tetrachord at each end of the scale. The new notes are double named - e.g. below the original Hypate there was a new tetrachord Hypaton, the notes of which were Hypate Hypaton, Parypate Hypaton, and Tichanos Hypaton. The lesser perfect system was apparently based upon the ancient heptachord which consisted of two 'conjunct' tetrachords meeting in the mese. These two systems together constitute the perfect and "unmodulating" system which may be represented in modern notation as seen in Table III, b. No account of this perfect system is given in Aristoxenus.

Instruments. The development may be due to the advance made from time to time in the form and compass of musical instruments. The cithara was an enlarged and improved lyre, showing increase in the number of strings. The flute also developed. "The flute-player Pronomus of Thebes, who was said to have been one of the instructors of Alcibiades, invented a flute on which it was possible to play in all the modes. 'Up to his time', says Pausanias (IX, 12, 5), 'flute-players had three forms of flute; with one they played Dorian music; a different set of flutes served for the Phrygian mode; and the so-called Lydian was played on another kind again. Pronomus was the first who devised flutes fitted for every sort of mode, and played melodies different in mode on the same flute.' " (1)

System and Key. We are left no doubt about the relation between key and system in the Keys of Aristoxenus. A system is a series of notes whose relative pitch is fixed. The key in which the system is taken fixed the absolute pitch of the series, - or, as Aristoxenus says it, the systems are melodies set

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(1) Monro, page 38

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(1) Monro, page 38

at the pitch of the different keys. Thus, the term Hypate may refer to any one of the keys, but the term Dorian Hypate fixed an absolute position. "The keys of Aristoxenus, in short, are so many transpositions of the scale called the Perfect System." (1)

In my opinion, in the following passage Monro does not prove that the modes were at fixed keys, for his 'lyre' example makes difficulty. The Greeks talked about the modes of the lyre, yet it had only one standard octave, which could be in any one key. Could a one-octave instrument take on more than one mode unless the mode was dependent on intervals? The answer may come from the following suggestion that a single scale might yield music of different modes if the keynote were different.

Macran objects to Monro's theory on the ground that such a striking nomenclature would not be applied to a superficial difference of key only; that the distinct ethical character attributed to the mode could not be dependent on pitch only for it would make the determination of ethos only relative; "if, for example, high pitch is

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(1) Monro, page 41

the natural expression of pathos, we can say of the higher of two keys that it is more pathetic than the lower, not that it is absolutely pathetic; yet the Greeks always attribute an absolute character to each of the scales. It would follow that the pitch of the keys must have been absolutely determined. But of such absolute determination there is not a word in our authorities. ****** Absolute and exact determination would presuppose the universal recognition of a conventional standard embodied in some authorized instrument, or expressed in a mathematical formula.***** But if determination, though absolute, was not exact, while we might admit an absolute difference of ethos between a scale of extreme height and one of extreme depth, there could have been no such difference between the tuning of one day and another, and the Phrygian of today will be the Lydian of tomorrow." (1) Macran's contention would be justified if he had correctly interpreted Monro. But he takes no account of Monro's admission that there were probably other systems in use besides the most common Perfect system, and that there were variations in gena

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(1) Macran's Aristoxenus

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(1) Meyer's Aristoxenus

which were at least partially responsible for the ethos. True, he gives only slight importance to this, which seems to us of at least equal ethical power with the pitch. We must not become ludicrous in our desire to make an exact science out of growing art. Both pitch and genus are of vital importance in determining our reaction to music today, and people are psychologically always alike. The definite power attributed to the different modes seems to me to indicate some connection between pitch and genus which permitted variation and interchange between the modes.

Referring to the importance of certain conjunctions in the Greek language, Aristotle is quoted as saying, "the Mese is a kind of 'conjunction', especially of beautiful sounds, since it is most often heard among these." (1) The Mese seems to be regarded as the unifying element of the scale to which other notes stand in relation, much as we think of our tonics or keynotes. (See Table II.) Tonality is spoken of as a merit rather than a necessity.

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(1) Aristotle, Problems, in Monro, page 43

It is difficult to see excuse for the following distinction made by Monro - that we find no support from the earlier authorities for a system of modes, but a great interest in the "varieties" to be obtained by taking the intervals of a scale in different order. These varieties were called the forms or species of the interval which measured the compass of the scale in question. In the same genus, there are seven admissable octachord scales differing only in the succession of the intervals which compose them, which could be exactly duplicated in their interval composition by seven modes of the same genus. (See Table II, part 1.) From such references as those to the Dorian species and the Phrygian species, it seems natural to conclude that species meant mode as it is now understood. Evidence is strong for the conclusion that the eight notes of the common scale of fixed relative pitch were those most used. We are free to guess that the layman was like those earlier theorists mentioned by Aristoxenus when he said: "Some did not attempt to enumerate the differences of the Systems, but confined their view to the seven octachord Systems which they called ἁρμονίαι ; others who did make the attempt did not succeed."

There follows a discussion of old uses of the word ἁρμονία which does not concern us, and a summary with the findings that this word had many meanings including that given by Aristoxenus to τόνοι - keys, and was therefore probably replaced by technical writers with more precise terms. We find in Aristoxenus and other writers of his school theoretical flights which show the difference between theory and practice. The single octave from Hypate to Nete, and its enlargement in the Perfect system, seem to have been in most common use.

From a study of notation we discover that the use of written characters to represent the sounds of music appear to date from a comparatively early period in Greece. There is a double set of characters, one for the notes of the singer, the other for the instrument.[1] It is not within the compass of our study to discuss textual difficulties involved in understanding their use of archaic characters, etc., but it is worth noting that the original fifteen characters correspond to the following notes in our modern scale - a b c d e f g a b c d e f g a - in other words

See TABLE FOUR - Orsiés fragment

two octaves of the Diatonic scale identical with the two octaves of the Greater Perfect System. The later writers, Ptolemy and Aristides Quintilianus, are of less importance in determining our idea of ancient Greek scales, genus, species, mode, etc., because their writings were colored by the schools of their times.

In conclusion, Monro finds that, before the time of Ptolemy, difference of mode or species was subordinate, and that the three elements which influenced the instruments, composers, and ethos of the music were (1) difference of genus, (2) difference of pitch or key, and (3) rhythm. "The most striking characteristic of Greek music, especially in its earlier periods, is the multiplicity and delicacy of the intervals into which the scale was divided." (1)

At the close of our study of Monro we find an epilogue binding Greek singing and speaking more closely together than they are bound today, unless perhaps in China; and at the beginning of our essay we quote Spencer, who had elaborately traced music

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(1) Monro, page 110

(1) Monro, page 110

to speech. Greek music was primarily and chiefly vocal. The words were an integral part of the whole. Our fragment from Mr. Ramsay is very probably, whether early or late, a type of music half-sung, half-chanted, for it has the unusual characteristic of coincidence between the musical accentuation and the poetical. The lack of a system of harmony, or the appreciation of the effect of successive harmonies, or of two distinct parts or progressions of notes harmonizing with each other, should be noted. It was of limited compass, of probably imperfect tonality. It evidenced, however, a keen sense of difference of pitch, had a finely constructed rhythm, and most noticeable of all, a natural adaptation between the musical form, the language, and the human voice. "The beauty and even the persuasive effect of a voice depend, as we are more or less aware, in the first place upon the pitch or key in which it is set, and in the second place upon subtle variations of pitch, which give emphasis, or light and shade. Answering to the first of these elements ancient music, if the main contention of this essay is right, has its system

"of Modes or keys. Answering to the second it has a series of scales in which the delicacy and variety of the intervals still fill us with wonder.***** But the changes of genus and 'colour' at the disposal of an ancient musician must have been acoustically more striking, and must have come nearer to reproducing, in an idealized form, the tones and inflexions of the speaking voice (than our modern modulations from Major into Minor). The tendency of music that is based upon harmony is to treat the voice as one of a number of instruments, and accordingly to curtail the use of it as the great source of dramatic and emotional effect. The consequence is two-fold. On the one hand we lose sight of the direct influence exerted by sound of certain degrees of pitch on the human sensibility, and thus ultimately on character. On the other hand, the music becomes an independent creation. It may still be a vehicle of the deepest feeling, but it no longer seeks the aid of language, or reaches its aim through the channels by which language influences the mind of man." (1)

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(1) Monro , page 125

## Ethos

The moral influence of music on character is the invisible and indefinable result of the the immediate emotional effect of music on what Monro calls the "gamut of sensibility." It influences temper of both mind and heart. Our emotional life plays an inestimable part in our character formation. The activities of our mind during changing emotional states are strongly under the influence of the emotion in power. There are also mental states in which there is emancipation from emotion. But these are probably in the minority with the average person. It is another probability that the highest state in which human beings find themselves is that in which there seems no conflict between mind and emotion, but all is harmoniously attuned, and an experience of alert intuition higher than mental acuteness because expressive of both mind and emotion, opens the personality to revelations of ultimate truth.

The word ethos means moral character. We shall use it in that interpretation, for we have only one ancient authority who discusses it in a

purely technical way. This is Aristides Quintilianus, who discusses the subject of musical ethos under the first of the usual seven heads, that which deals with sounds or notes. Ethos is one of the distinctions to be drawn in regard to notes: it is different as they are higher or lower, and also as they are in the place of a Paryphate or in the place of a Lichanos. "Again, under the seventh head, that of μελοποιία or composition, he treats of the 'regions of the voice' ******* There are three kinds of composition, he tells us (page 28) viz. that which is akin to Hypate (. . . . . ), that which is akin to Mese (. . . .) and that which is akin to Nete (. . . . .). The first part of the art of composition is the choice (. . . . ) which the musician is able to make of the region of the voice to be employed (. . . ..). He then proceeds to connect these regions or different parts of the musical scale, with different branches of lyrical poetry." (1) The three styles of musical composition, Nomic (netoid), Dithyrambic (mesoid), and Tragic (hypatoid), express the ethos of the mind according to the melody

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(1) From Meib. quoted in Monro, page 63

adopted. (Here ethos must evidently mean "mood" or "temper"). "Thus it happens that composition ( · · ··) may differ in genus, as enharmonic, chromatic; in System, as Hypatoid, mesoid, Netoid; in key, as Dorian, Phrygian; in style, as Nomic, Dithyrambic; in ethos as we call one kind of composition "contracting" (συσταλτική) namely that by which we move painful feelings; another "expanding" (διαστολτική), that by which we arouse the spirit (θυμός ); and another "middle" (μέση ), that by which we bring round the soul to calmness.' " "This passage does not explicitly connect the three kinds of ethos - the diastaltic, the systaltic, the intermediate - with the three regions of the voice; but the connection was evidently implied, and is laid down in express terms in the pseudo-Euclidean Introductio ( page 21 Meib). According to this Aristoxenean writer, 'the diastaltic ethos of musical composition is that which expresses grandeur and manly elevation of soul (  .), and heroic actions; and these are employed by tragedy and all poetry that approaches the tragic type.

The systaltic ethos is that by which the soul is brought down into a humble and unmady frame; and such a disposition will be fitting for amatory effusions and dirges and lamentations and the like. And the hesychestic or tranquilly disposed ethos (. . . . ) of musical composition is that which is followed by calmness of soul and a liberal and peaceful disposition; and this temper will fit hymns, poems, laudations, didactic poetry and the like. It appears then that difference in the 'place' (τοπος) of the notes employed in a composition -- difference, that is to say, of pitch -- was the element which chiefly determined its ethos, and (by consequence) which distinguished the music appropriate to the several kinds of lyrical poetry." (1)

We shall then, diagram it thus:

| Style | System | Modern Explanation | Ethos |
|---|---|---|---|
| Nomic | Netoid | Low (or high) | Systaltic |
| Dithyrambic | Mesoid | Middle | Hesychastic |
| Tragic | Hypatoid | High (our low) | Diastaltic |

A different version exists in the anonymous treatise edited by Bellermann, where the "regions of the voice" are said to be four - the three already mentioned and

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(1) Monro, page 64

a fourth which takes its name from the tetrachord Hyperbolaion, with boundaries laid down by reference to the keys. The three regions are mentioned in the catechism of Bacchius, where the varieties of ethos also appear. Monro quotes from Meibom, p. 14 - "What is change of ethos? When a change is made from the humble to the magnificent, or from the tranquil and sober to violent emotion." Comparing these later writers with the doctrine of ethos in Plato and Aristotle, we find the chief difference to be that the difference of mode is no longer mentioned butrather the three (or four) portions of the scale in which the principle of the division is simply the difference of pitch. This may be evidence to prove that it was on a basis of pitch rather than of succession of intervals that ethos was determined. Other elements, however, entered in, and it is difficult to judge absolutely as to the relative importance of each. In the passage in Aristides (p.13 Meib.) it is said that ethos depends first on pitch, and secondly on the moveable notes, that is to say, on the genus; and there is a statement that the Diatonic is masculine and austere, the Chromatic sweet and

plaintive, the Enharmonic stirring and pleasing. (1) These then give us three differentiations within the three we already have. We have no evidence that ethos is attributed to this or that species of the octave.

Returning now to our earlier writers with the word we have gleaned from the later, the earliest passage we have comes from the poet Pratinas, a contemporary of Aeschylus, quoted by Heraclides Ponticus in a long fragment preserved by Athenaeus - " ' Follow neither a highly-strung music nor the low-pitched Ionian, but turning over the middle plough-land be an (2) Aeolian in your melody'" - which indicates only that discrimination was exercised, and the extremes shunned, while the Aeolian, a golden mean, was favored.

Turning now to Plato, a sine qua non on this subject is the dialogue in the Republic III 398-t-, between Socrates and Glaucon: "What then are the scales of mourning?" "Mixolydian", said he, "and high Lydian, and some others of the same character." "Which of the scales then are

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(1) Monro, page 66

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(2) Monro, page 5

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(1) Monro, page 66

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(2) Monro, page 5

soft and convivial?" "The Ionian", he replied, "and Lydian, such as are called slack (low-pitched)". "Which then remain?" "Seemingly Dorian and Phrygian." "I do not know modes", says Socrates, "but leave me one that will imitate the tones and accents of a brave man enduring danger or distress, fighting with constancy against fortune; and also one fitted for the work of peace, for prayer heard by the gods, for the successful persuasion or exhortation of men, and generally for the sober enjoyment of ease and prosperity." (1) Two such modes, one for courage and one for temperance, are declared by Glaucon to be found in the Dorian and the Phrygian.

In the Laches, Plato speaks of the character of a brave man as being "metaphorically a 'harmony', by which his life is made consonant to reason - 'a Dorian harmony&, he adds - playing upon the musical sense of the word - 'not an Ionian, certainly not a Phrygian or a Lydian, but that one which only is truly Hellenic." (2) Here again the truly Hellenic ideal of the golden mean is illustrated.

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(1) Monro, page 8

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(2) Monro, page 8

(1) Monro, page 8

(2) Monro, page 8

Elsewhere Plato says, "Melody and Rhythm penetrate the hidden spots in the soul to which they cling closely, giving grace to its movements, beautifying the soul of the man who has been rightly educated, and disfiguring it, if his education has been faulty; and again, because he has received the true education of this inner being, he will, with consummate skill perceive the imperfections in art and in Nature, and while he admires the good with true taste, he also rejoices in its contemplation, and receiving it into his inner being, he himself becomes good and noble. He will justly hate the evil in his youth, even when he is ignorant of its cause, and when he attains the age of reason he will recognize and greet it as a friend whose acquaintance he has made long ago through his education." (1)

In Book VI of the Republic, as given in Monroe's Source Book, page 210, Plato lets Glaucon enjoy a little merriment ~~over~~ the discussions of musicians over the smallest intervals, in which either party sets "their ears before their understanding." In Book VII, Laws, (page 237) it is affirmed that "strains of music are our laws",

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(1) Quoted in Monradian, Place of Music in Greek Culture

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and have restraining force, for "no one in singing and dancing shall offend against public and consecrated models." He goes on to lament the choruses which pour forth horrible blasphemies on sacred rites and excite the souls of the audience with "words and rhythms, and melodies most sorrowful to hear." He holds that every evil word should be avoided in song, and "that our poets understanding prayers to be requests which we make to the Gods, will take special heed that they do not by mistake ask for evil instead of good." (1) Hymns to the Gods, heroes, and departed are allowed. There should be a "musical president" and public judges, at least fifty years of age, shall make the selection of public music from among the many excellent compositions existent. "And if a man be brought up from childhood to the age discretion and maturity in the use of the orderly and severe music, when he hears the opposite, he detests it and calls it illiberal; but if trained in the sweet and vulgar music, he deems the opposite cold and displeasing. * * * * * the one has the advantage of making those who are trained in it better men,

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(1) Monroe, Plato - Laws, page 239

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(1) Monroe, Plato - Laws, page 239

"whereas the other makes them worse ********
The sounds of the lyre are best for teacher
and learner to use, because its notes are pure,
********* but complexity and variations of
notes, when strings give one sound and the poet
or composer of the melody gives another; also
when they make concords and harmonies in which
lesser and greater intervals, slow and quick,
or high and low notes, are combined; or, again,
when they make complex variations of rhythms,
which they adapt to the notes of the lyre,--
all that sort of thing is not suited to those
who have to acquire a speedy and useful
knowledge of music in three years." (1)

Particularly to be noticed in the references to music made by Plato are: (1) that a person as keen as Socrates did not know the modes, indicating that some at least lived without knowing the music of the time, though doubtless knowing about it; (2) that the needs and purposes of men as expressed by Socrates were for courage and constancy in battle, and for piety, persuasiveness or the power of exhortation, and for sobriety in enjoying ease and prosperity,- this last another

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(1) Ibid, page 240

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(1) Ibid. page 240

evidence of the power of the golden mean, sending us back to kalokagathia; (3) that perhaps Plato, like his Socrates, did not know the intricacies of the modes, and that when he called the Dorian the "only truly Hellenic", he may have meant the Hypodorian, identified by Heraclides with Aeolian, and considered truly Hellenic by some writers; (4) that the profound influence of music education on taste and on character was recognized; (5) that Plato must have felt that an autocratic government of the wise in music would benefit all men; (6) that the musical practices going on in Plato's day were distressingly indiscriminate, impious, even some times mistaking evil for good; (7) that, however, music good enough to receive his approval existed to be used; (8) that Plato was an educationalist theorizing about music from without rather than from within the musical fold.

Heraclides Ponticus maintains that there were three modes corresponding to the three Greek races - Dorian, Aeolian, Ionian. These three he believed each had a marked ethos. The Dorian reflected the military temper of Sparta; the Aeolian was like the Thessalian character, "gay, somewhat

overweening and self-indulgent, but hospitable and chivalrous." (1) The Ionian was harsh and severe, expressive of the unkindly disposition fostered amid the pride and material welfare of Miletus. Heraclides continues with some more acid remarks about those who do not appreciate differences of kind but are guided only by the high or low pitch of the notes. A mode ought, he thinks, to have a distinct moral or emotional character.

Aristotle gives us the artistic layman's point of view. In "Politics" V (VIII) 7, 1342 C20: "Thus for those whose powers have failed through years it is not easy to sing the high scales, and their time of life naturally suggests the use of the low." (2) And in "Politics" VI (IV) 3, 1290 a 20: "Some would have it that it is the same (as the problem of government) in the case of scales; there too they point two species, Dorian and Phrygian, and all other systems they class as either one or the other of these." In Book VIII, as translated in Monroe, page 283, he says, "Concerning music a doubt may be raised --

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(1) Ibid, page 72

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(2) Ibid, page 72

"in our own day most men cultivate it for the sake of pleasure, but originally it was included in education, because nature herself, as has often been said, requires that we should be able, not only to work well, but to use leisure well; for, as I must repeat once and again, the first principle of all action is leisure.****** There remains then, the use of music for intellectual enjoyment in leisure.******* It is evident, then, that there is a sort of education in which parents should train their sons [Plato would notice the women also], not as being useful or necessary, but because it is liberal or noble." Later Aristotle suggests the various suggested reasons for studying music, whether for amusement and relaxation, like sleep or drinking, or for the production of virtue, or for the enjoyment of leisure and mental cultivation. Why learn ourselves instead of listening to music better produced because by professionals? The last question is left, the first three answered by saying it is in a measure all of the three possibilities. "For innocent pleasures are not only in harmony with the perfect end of life, but they also provide relaxation.*****It must have such an influence (an influence over the character and soul)

"if characters are affected by it. And that they are so affected is proved by the power which the songs of Olympus and of many others exercise; for beyond question they inspire enthusiasm, and enthusiasm is an emotion of the ethical part of the soul. Besides, when men hear imitations, even unaccompanied by melody or rhythm, their feelings move in sympathy. Since then music is a pleasure, and virtue consists in rejoicing and loving and hating aright, there is clearly nothing which we are so much concerned to acquire and to cultivate as the power of forming right judgments, and of taking delight in good dispositions and noble actions. Rhythm and melody supply imitations of anger and gentleness, and also of courage and temperance and of virtues and vices in general which hardly fall short of the actual affections, as we know from our own experience, for in listening to such strains our souls undergo a change.***** Even in mere melodies there is an imitation of character, for the musical modes differ essentially from one another, and those who hear them are differently affected by each. Some of them make men sad and grave, like the so-called Mixolydian, others enfeeble

"the mind, like the relaxed harmonies, others, again, produce a moderate and settled temper, which appears to be the peculiar effect of the Dorian; the Phrygian inspires enthusiasm.****** Enough has been said to show that music has a power of forming the character, and should therefore be introduced into the education of the young. The study is suited to the stage of youth, for young persons will not, if they can help, endure anything which is not sweetened by pleasure, and music has a natural sweetness. There seems to be in us a sort of affinity to harmonies and rhythms, which makes some philosophers say that the soul is a harmony, others that she possesses harmony."(1) He then answers his question about whether children should learn to produce music themselves by saying that rattles are a capital invention for young things, and that musical education is a rattle or toy for children of a larger growth. Discrimination solves the questions of what is suitable for different ages, and for taste rather than vulgarity. The young should study until they feel delight in "noble melodies and rhythms."

Concerning the instruments to be used there is agreement between Plato and Aristotle that the

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(1) Monroe - Readings, pages 287-288

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flute is not to be used, the former because it uses the complicated harmonies, the latter because it, like the harp, requires great skill. Aristotle also agrees that the flute has not a good moral influence, it is too exciting. It also does not allow the use of the voice. It is, however, vastly popular. Plato rejects all but the lyre and harp for use in the city, and the pipe (pipes of Pan) in the country. The many-stringed lyre is rejected. Aristotle says that he accepts the division of melodies into ethical melodies, melodies of action, and passionate or inspiring melodies. But because he believes music should be studied for (1) education, (2) purification - the "katharsis", (3) intellectual enjoyment, (4) for relaxation and recreation after exertion, he holds that all of the harmonies or modes should be employed in these varying functions, but not all in the same manner. "In education eith ethical melodies are to be preferred, but we may listen to the melodies of action ad passion when they are performed by others. For feelings such as pity and fear, or again, enthusiasm, exist very strongly in some souls, and have more or less

"influence over all. Some persons fall into a religious frenzy, whom we see disenthralled by the use of mystic melodies, which bring healing and purification to the soul." (1)

Aristotle disagrees heartily with the Socrates of Plato, who retains the Phrygian with the Dorian, "for the Phrygian is to the modes what the flute is to musical instruments - both of them are exciting and emotional.***** All men agree that the Dorian is the gravest and manliest. ***** And if there be any harmony such as the Lydian above all others appears to be, which is suited to children of tender age, and possesses the elements both of order and of education, clearly (we ought to use it, for) education should be based upon three principles - the mean, the possible, the becoming, these three." (2) And lastly, "But art in its highest idea is one of the serious activities of the mind which constitute the final well-being of man. Its end is pleasure, but the pleasure peculiar to that state of rational enjoyment in which perfect repose is united with perfect energy." (3)

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(1) Aristotle, in Monroe, page 293

(2) Ibid, page 294

(3) Butcher - Aristotle's Theory of Poetry & Fine Art

Especially to be noted in the passages quoted from Aristotle are:

(1) That he discussed music for a people for whom slaves did much of the menial labor, and who therefore had the leisure he so highly values;

(2) That Aristotle recognizes more functions for music than does Plato, feeling that the moods of man can be expressed in the varying modes; that the ethical, the Dorian, is best particularly in education;

(3) That he finds the songs of Olympus inspire enthusiasm - literally God's being with us - and are therefore an emotion of the ethical part of the soul,- for this the Phrygian is effective;

(4) That he is theorizing against the popular practice of his day in many respects, i.e. in regard to banning the flute;

(5) That he believes in music as a medico-psychological treatment for some states, which results in 'purification', for which the high modes of passion may be used; and

(6) That he binds music consistently into his ideal for man, as answering man's need for either purification, enthusiasm, or moral strengthening --

all to help him toward ultimate proportion, "fair-and-goodness."

Concerning Fragments

We have copied two fragments of Greek music now open to reference. (See Table IV) The first may be of much later date than the music we are discussing. Most of the extant specimens of Greek Music are of the second century A.D. But this first fragment, an inscription discovered by Mr. W. M. Ramsay, which gives a musical setting of four short gnomic sentences, was probably a chant, being noticeably a bridge between song and speech, as we have mentioned before, because of its accent in the music agreeing with those of the lines. The mode is difficult to determine, either Dorian or Hypo-Phrygian. The ethical effect of the mode on us would not be a criterion for judgment of ethos.

The other, a fragment of a papyrus roll belonging to the Augustan age (1) contains the music to a chorus from the "Orestes" of Euripides, the date of the play being 408 B.C. The right and left sides of the page are torn or worn away, and the middle is much damaged; but portions of six

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(1) Article in Musical Times, May 1, 1894

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lines of text and seven of musical notation remains. The test can easily be completed from ordinary editions of the p lay, and this fact enabled Mr. Williams to reconstruct the rhythm of the whole -- conjecturally, but yet in accordance with principles now well understood by experts. There are notes for an instrument at the ends of the verses. In these places it would appear that the player extemporized a short interlude. The small notes do not exist in the papyrus but are merely to show the rhythm. It is in the Lydian key according to Monro, of either enharmonic or chromatic genus. The lowest note finds no place in the System, but it may belong to the period when the original octave had been extended by the addition of a tone below the Hypate. There are three other possible modes in which it might be placed. Only the completion of the fragment can yield an absolute answer.

## Conclusion

We find, therefore, a surprising amount of agreement among our authorities above the small troubles with "hypos", older and newer

names and scales, etc. There is unanimity on the fact that the modes had power to affect men's moods and so their character. We have come to the conclusion that this power would be impossible if there were only difference in pitch between one mode and another. We believe there must have been variations in pitch, genus, and mode to explain the ethos. By mode, we mean the particular order of the successive intervals; we imagine a natural limitation based on instruments, of about two octaves, in which most music was sung and played. Within this, music varied in mode, genus, pitch, and therefore ethos. Much depended also on whether the scale began on Paryphate, Nete, Lichanos, or some other. Ethos was not fixed by any single modification. We do not believe that in Ancient Greek music there was an absolute, fixed pitch for each mode, nor an absolute ethos for each. All were evidently used, and to such varying ends that it is surprising to find some agreement among the critics concerning the needed discrimination. Unanimously they advocate the middle mode, though our earliest fragment from Pratinus calls it the Aeolian; Plato has Glaucon

call it the "one for temperance", Dorian; Heraclides identifies Aeolian and Hypo-Dorian; Aristotle characterizes the Dorian as the only one under whose influence men are in a middle and settled mood; and Aristides Quintilianus makes mode dependent on the region of the voice, whether Hypatoid, Mesoid, or Netoid, and the resulting ethos "contracting", "expanding", or "middle". We are justified then in saying that after the middle road -- so Hellenic an ideal -- the greatest unanimity is on the three ethical regions; the high, the low, and the medium, according to pitch; the passionate, the softening, and the temperate, according to ethos. The Dorian mode as consonant with the golden mean ideal is the only mode upon whose ethos there is striking agreement. We are forced to the conclusion that instruments were tuned differently by different musicians and in different parts of the country; that the general Hellenic ideal of proportion influenced the critics' discrimination concerning ethos; and that they were ethically alert. Their influence was doubtless felt on the large majority, who were undiscriminating in their use of modes and instruments, but had a sensitiveness

to music because it had been part of their education. There was a general realization that music had at least three fields in which to express itself - that of passion, grief, and enthusiasm; that of softness, love, idleness; and that of "excellent" and "worthy" living. Sometimes the Dorian was called the mode of Spartan and war-like temper. Socrates made a demand for a mode of courage, which might be covered by the first. There is no limit to our uncertainties in absolute detail. The outstanding agreement lies in the concern of our authorities with the ethos of music, and their evident sensitiveness to its power. To the highest thinkers, music was a means of attuning men to the great Ethos of Life, and music education could ideally provide rich soil in which the soul might grow to excelling "Fair-and-Goodness". Actually, until all education was ethically pointed, music could only be as morally powerful as the individual sensitiveness to it.

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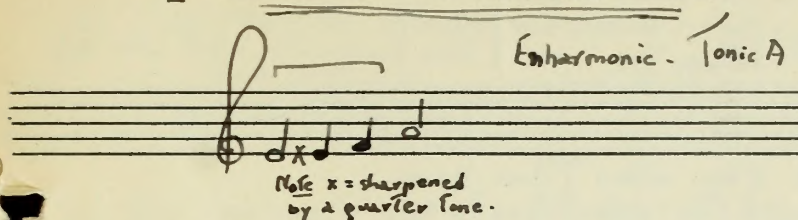
Note: I am partially indebted for my historical outlook to Lectures in the "History of Religious Education" by Professor Edwin T. Booth.

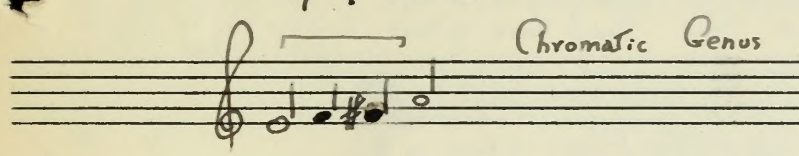
# APPENDIX

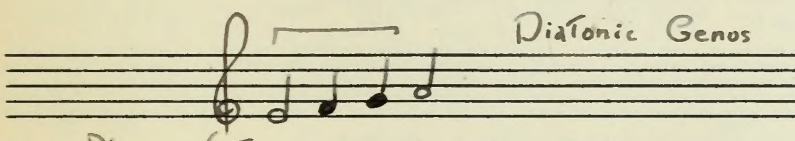
# APPENDIX

TABLE ONE (SCALES from Grove)

## I. Schemes of The Tetrachord scales



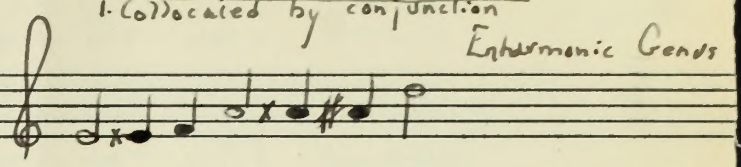



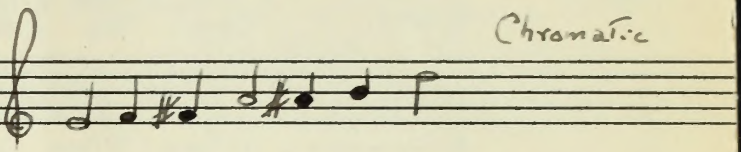



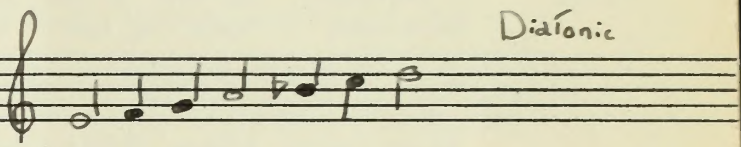

Note. (There is a difficulty in the enharmonic scale. Its notes cannot be determined by the principle of concord.)

## II. Schemes of the heptachord scales

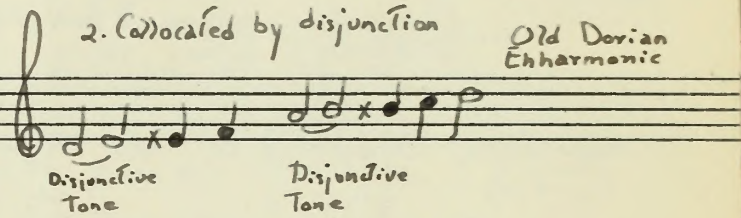
1. (a) Located by conjunction



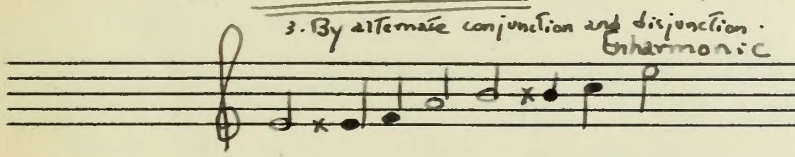



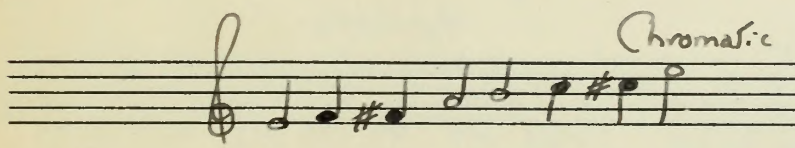

2. (a) Located by disjunction

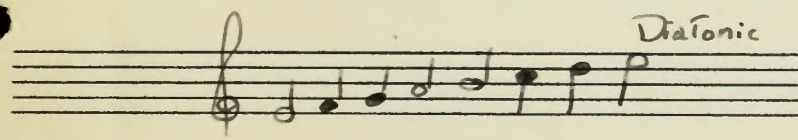



## III. Octachord Scales

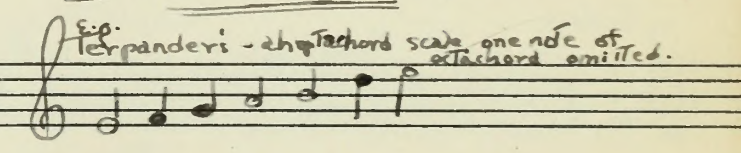
3. By alternate conjunction and disjunction.

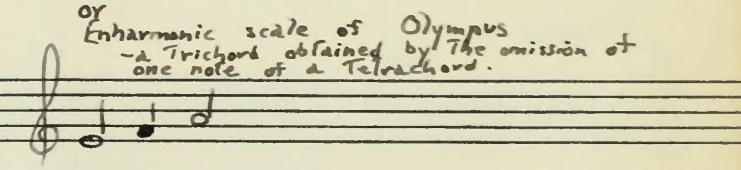



## IV. Deficient Scales (were also common)



# TABLE TWO - MODES (from Grove)

**The intervals:**

**Mixolydian**

| | | | | | | | Tonic | |
|---|---|---|---|---|---|---|---|---|
| Enharmonic - | ¼ Tone | ¼ Tone | diTone | ¼ Tone | ¼ Tone | diTone | Tone | |
| Chromatic - | ½ Tone | ½ Tone | 1½ Tone | ½ Tone | ½ Tone | 1½ Tone | Tone | |
| Diatonic - | ½ Tone | Tone | Tone | ½ Tone | Tone | Tone | Tone | → as in the white notes from B - B. |

**Lydian**

| | | | | | | Tonic | | |
|---|---|---|---|---|---|---|---|---|
| Enharmonic: | ¼ Tone | diTone | ¼ Tone | ¼ Tone | diTone | Tone | ¼ Tone | |
| Chromatic: | ½ Tone | 1½ Tone | ½ Tone | ½ Tone | 1½ Tone | Tone | ½ Tone | |
| Diatonic: | Tone | Tone | ½ Tone | Tone | Tone | Tone | ½ Tone | → as in the white notes from c - c. |

**Phrygian**

| | | | | | Tonic | | |
|---|---|---|---|---|---|---|---|
| Enharmonic: | diTone | ¼ Tone | ¼ Tone | diTone | Tone | ¼ Tone | ¼ Tone |
| Chromatic: | 1½ Tone | ½ Tone | ½ Tone | 1½ Tone | Tone | ½ Tone | ½ Tone |
| Diatonic: | Tone | ½ Tone | Tone | Tone | Tone | ½ Tone | ½ Tone → as d - d. |

**Dorian**

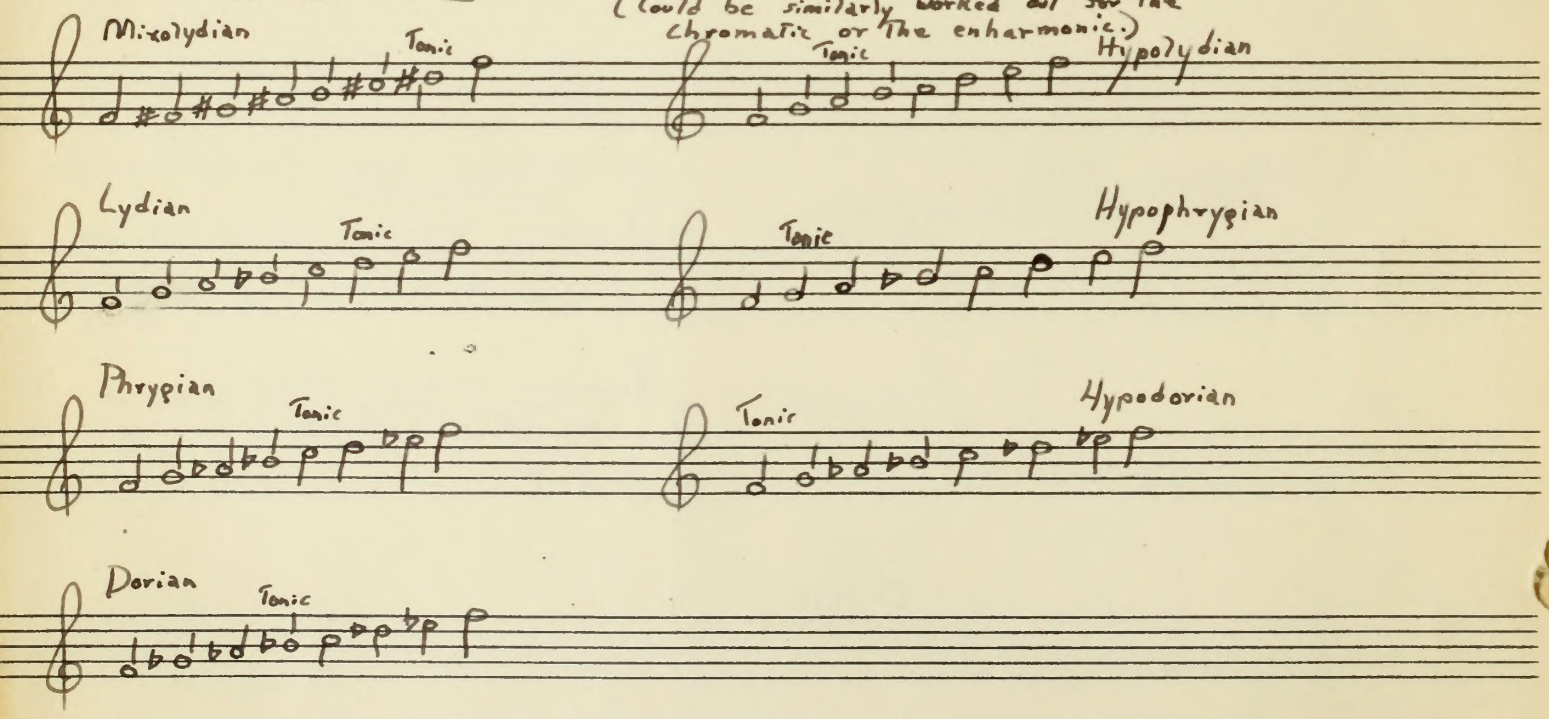
| | | | | Tonic | | | |
|---|---|---|---|---|---|---|---|
| Enharmonic: | ¼ Tone | ¼ Tone | diTone | Tone | ¼ Tone | ¼ Tone | diTone |
| Chromatic: | ½ Tone | ½ Tone | 1½ Tone | Tone | ½ Tone | ½ Tone | 1½ Tone |
| Diatonic: | ½ Tone | Tone | Tone | Tone | ½ Tone | Tone | Tone → as e - e. |

Etc.

Hypolydian, (as F-F) Hypophrygian, (as g-g) and Hypodorian (as a-a) follow in regularity of progression.

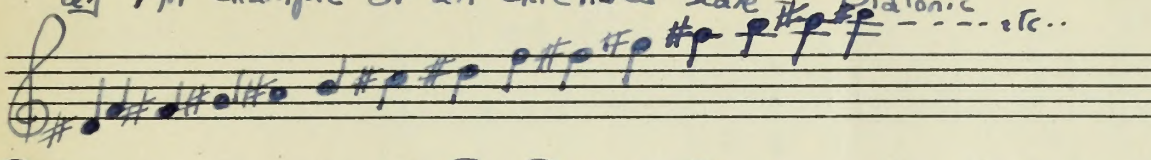
E.G. THE SEVEN MODES. in the diatonic Genus

(Could be similarly worked out for the chromatic or the enharmonic.)

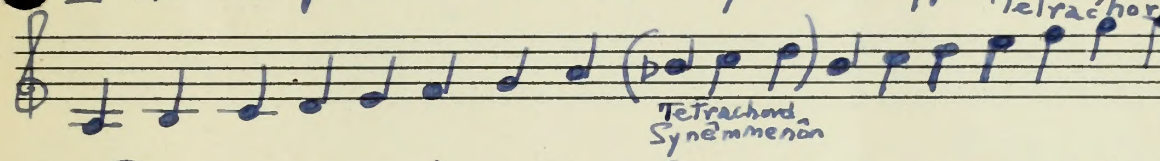


# TABLE THREE - MISCELLANEOUS

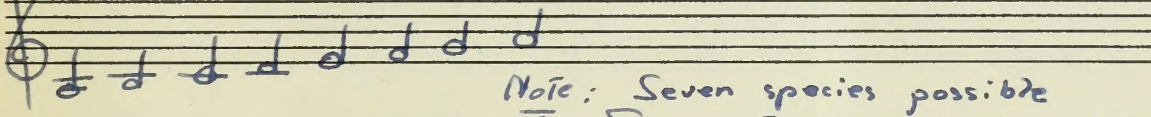
a.] An example of an extended scale Diatonic - - - - - etc..



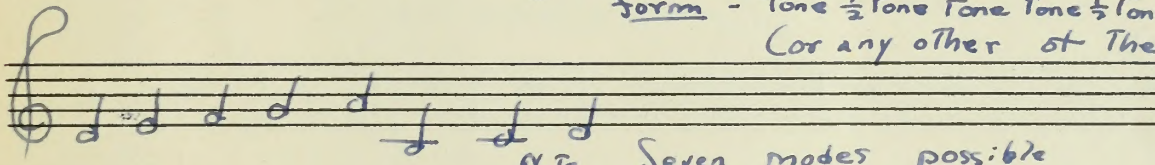
b.] An example of The Perfect System - Hypodorian or Mixolydian with Tetrachord Synemmenôn




c.] Species and modes in one octave - diatonic - compared : as on an instrument similar to seven strings.



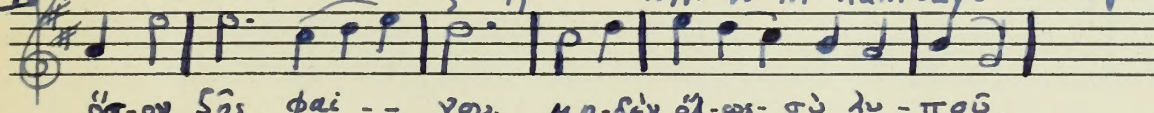
Note : Seven species possible
Form - Tone ½ Tone Tone Tone ½ Tone Tone Tone
(or any other of the seven)



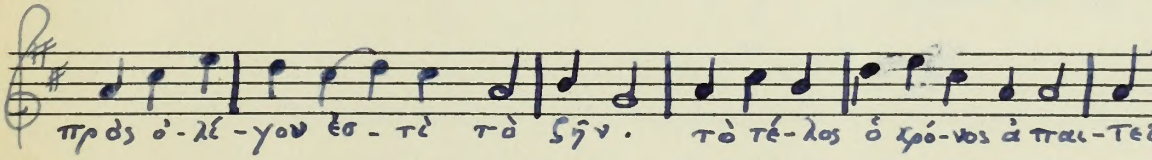
Note : Seven modes possible
Form . Tone ½ Tone Tone Tone Tone ½ Tone Tone
- The use of Lower notes would not figure the interval relation.

# TABLE FOUR - FRAGMENTS

1.] To illustrate chanting Type - Mr. W. M. Ramsay's inscription (from Monro)



ὅσ-ον ζῇς φαί -- νου. μη-δὲν ὄλ-ως- σὺ λυ - ποῦ.

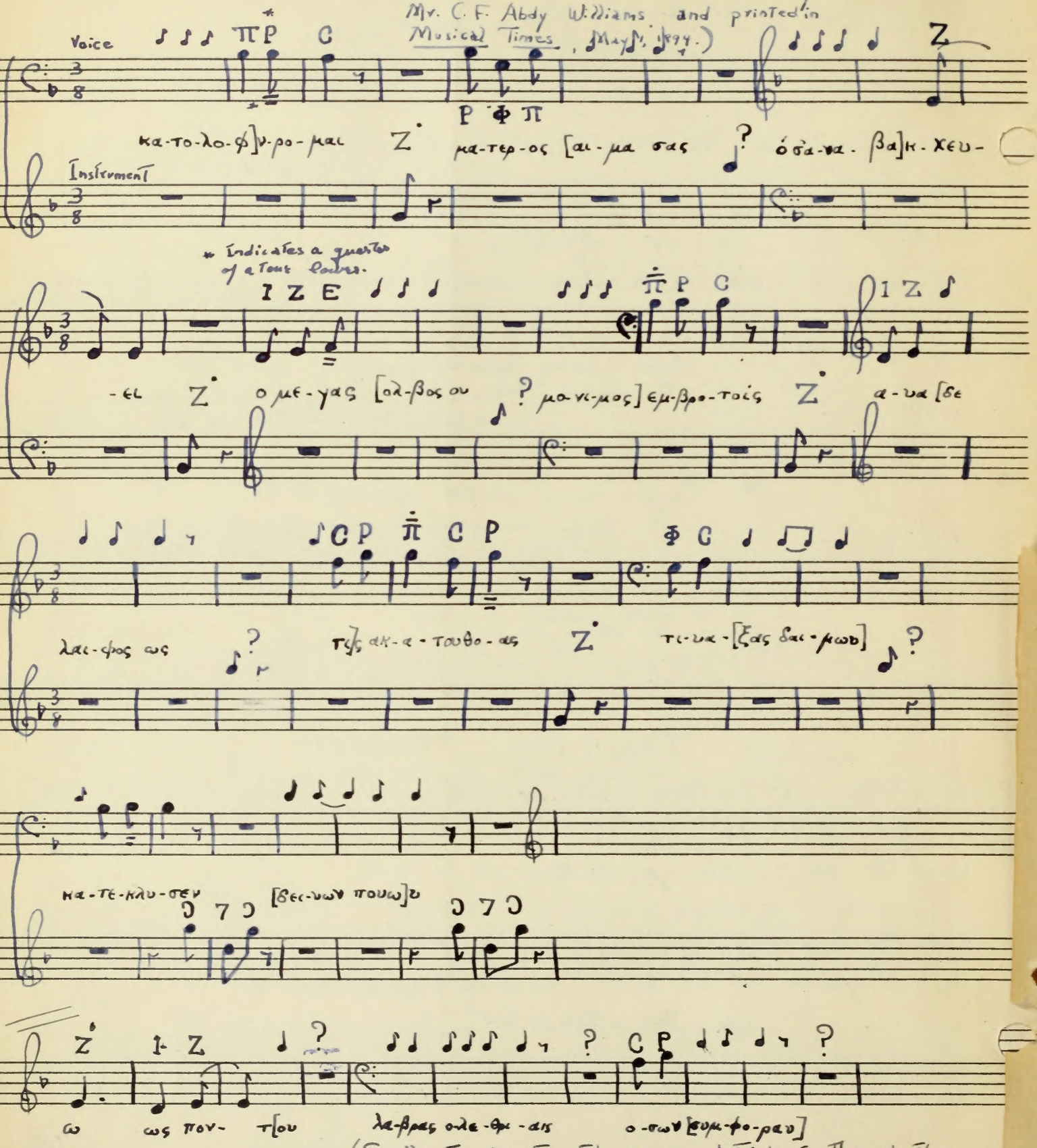


πρὸς ὀ-λί-γον ἐσ - τὶ τὸ ζῆν. τὸ τέ-λος ὁ χρό-νος ἀ παι-τεῖ.

See - Note on This in Text.

# 2/ TABLE FOUR cont.- ORESTES FRAGMENT

(As rendered into modern notation by Mr. C. F. Abdy Williams and printed in Musical Times, May 1, 1904.)




* Indicates a quarter of a tone flatter.

Note: (Small notes are not on the papyrus, but indicate the rhythm.
{See description of fragment in Thesis for explanation.

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FOR REFERENCE

NOT TO BE TAKEN FROM THIS ROOM